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Service Manual

301.7D MINI HYD EXCAVATOR

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Heavy Equipment Manuals

Product: MINI HYD EXCAVATOR
Model: 301.7D MINI HYD EXCAVATOR LJ4
Configuration: 301.7D Mini Hydraulic Excavator LJ400001-UP (MACHINE)

Disassembly and Assembly
301.7D, 302.2D and 302.4D Mini Hydraulic Excavators

Media Number -UENR3253-01 **Publication Date -01/05/2015** **Date Updated -12/05/2015**

i05182587

Alternator - Remove and Install

SMCS - 1405-010

Removal Procedure

1. Disconnect the battery.

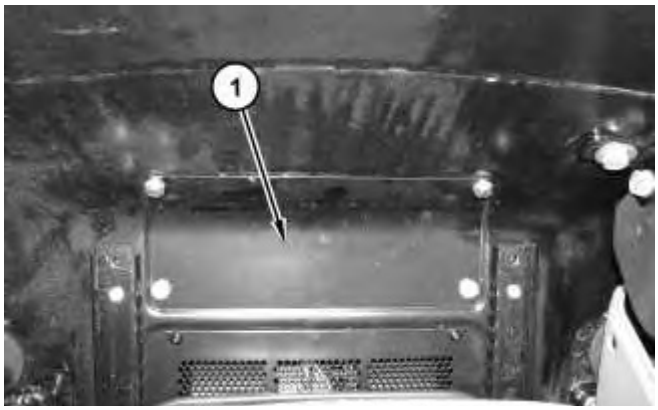

Illustration 1 g03322962

2. Slide seat forward and remove cover (1) .

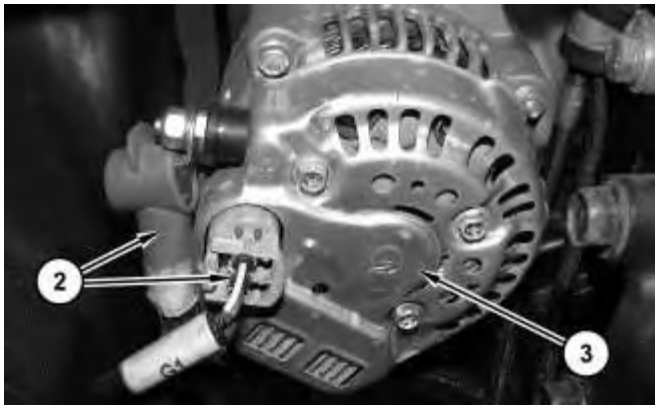

Illustration 2 g03322961

3. Disconnect harness assemblies (2) from alternator (3) .

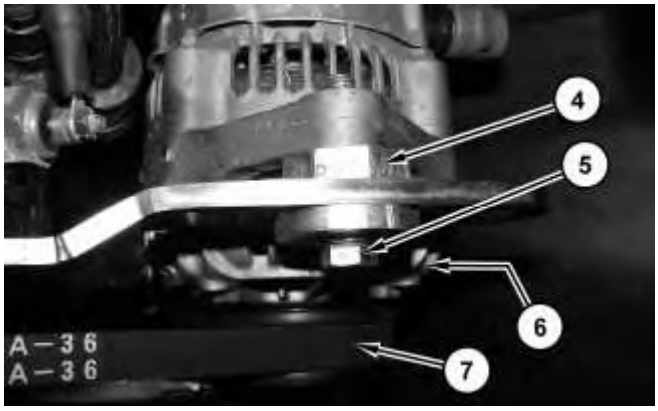

Illustration 3 g03322963

4. Remove bolt (5) and tensioner (4). Relocate belt (7). Remove bolt (6). Remove alternator (2) .

Installation Procedure

1. Install alternator (2) in the reverse order of removal.

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i05221768

Electric Starting Motor - Remove and Install

SMCS - 1453-010

Specifications

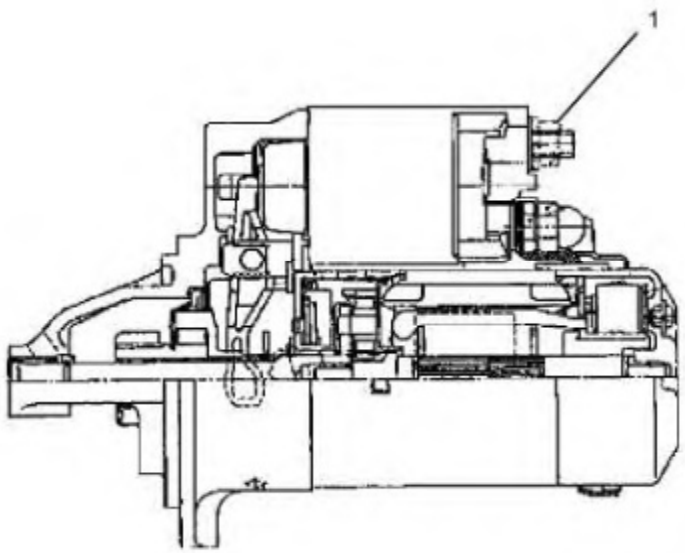

Illustration 1 g03340078

Table 1

Specification for 373-9707 Electric Starting Motor			
Item	**Qty**	**Part**	**Specification Description**

1	-	-	Tighten the nut to 7.83 to 9.81 N·m (69.30 to 86.83 lb in).
-	-	-	No load performance at 20 °C (68 °F): Minimum speed is 3000 rpm. Maximum current draw is 90 amp. Voltage is 11.5 V.
-	-	-	Load performance at 20 °C (68 °F): Minimum speed is 1130 rpm. Maximum current draw is 230 amp. Voltage is 8.7 V.
When the electric starting motor is viewed from the pinion end, the motor rotates in clockwise direction.			
Operating voltage is 12 V.			

Removal Procedure

Start By:

A. Remove the seat.

1. Disconnect the negative battery cable.

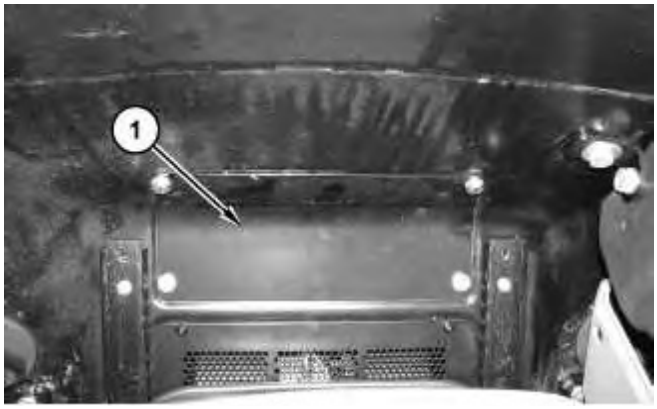

Illustration 2 g03337929

2. Remove upper cover (1) .

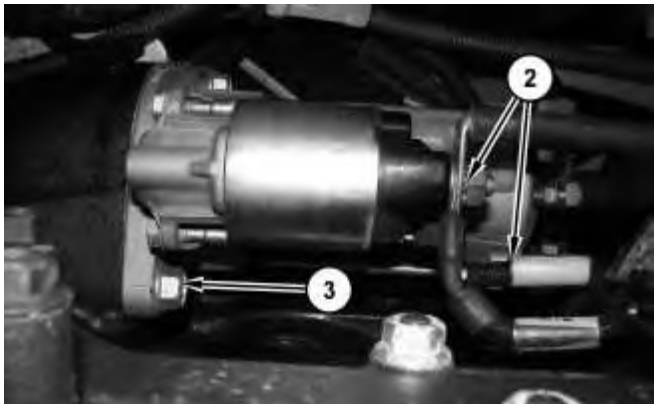

Illustration 3 g03337955

3. From the top side, disconnect harness assemblies (2). Remove bolt (3).

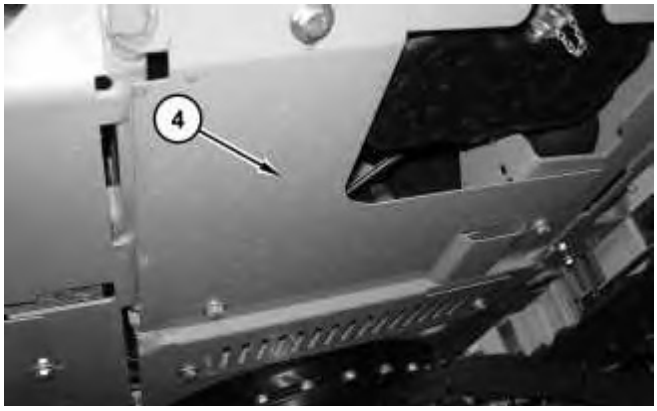

Illustration 4 g03337953

4. Remove lower cover (4) .

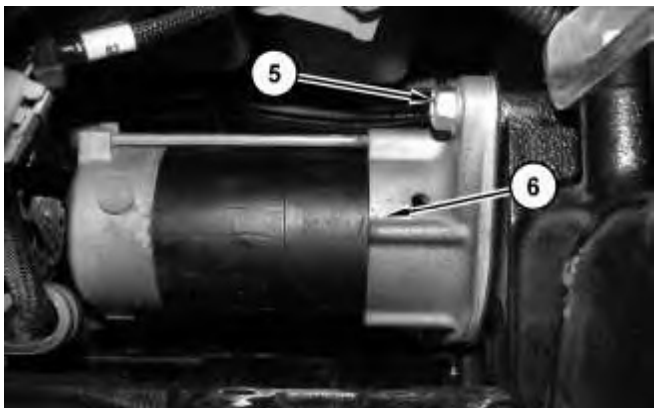

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Illustration 5 g03337961

5. From the bottom, remove bolts (5). Remove electric starting motor (6).

Installation Procedure

1. Install electric starting motor (6) in the reverse order of removal.

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i05230329

Engine - Remove and Install

SMCS - 1000-010

Removal Procedure

Start By:

A. Remove cab.
B. Relocate trim.
C. Remove the counterweight.
D. Remove the muffler.

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting, and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Cat products.

Dispose of all fluids according to local regulations and mandates.

1. Drain Coolant. Refer to Operations and Maintenance Manual, "Cooling System Coolant (ELC) - Change" for the correct draining and filling procedures.

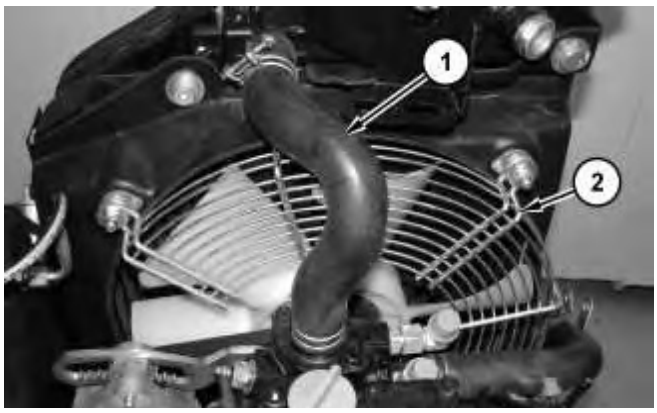

Illustration 1 g03333975

2. Remove hose assembly (1). Remove fan guard assembly (2) .

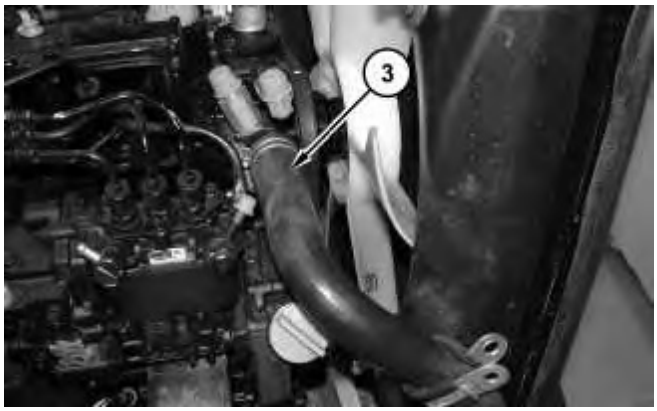

Illustration 2 g03333988

3. Remove hose assembly (3) .

Illustration 3 g03333991

4. Disconnect harness assemblies (4) .

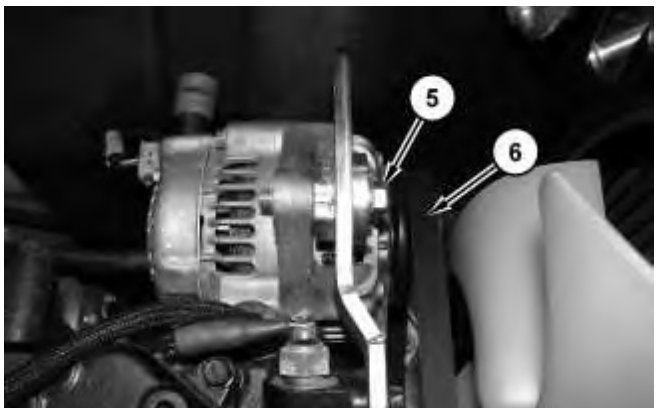

Illustration 4 g03333994

5. Loosen bolt (5). Loosen tension on belt (6) .

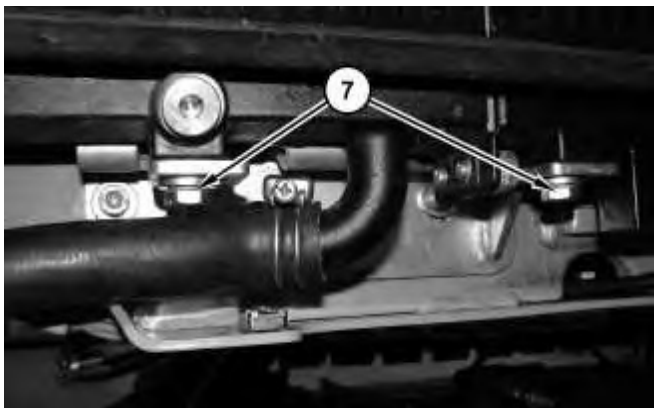

Illustration 5 g03334004

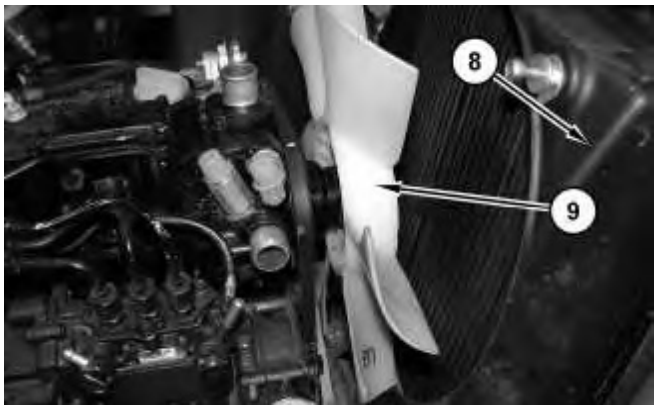

Illustration 6 g03334002

6. Loosen lower radiator mounting bolts (7). Tilt radiator (8) backwards in order to remove fan (9). Remove fan (9) .

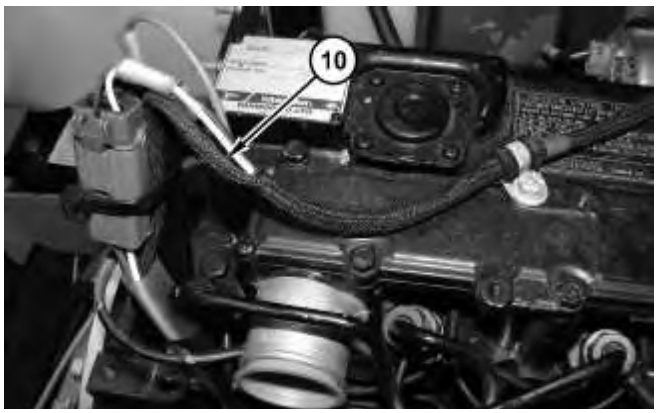

Illustration 7 g03334006

7. Disconnect harness assembly (10) .

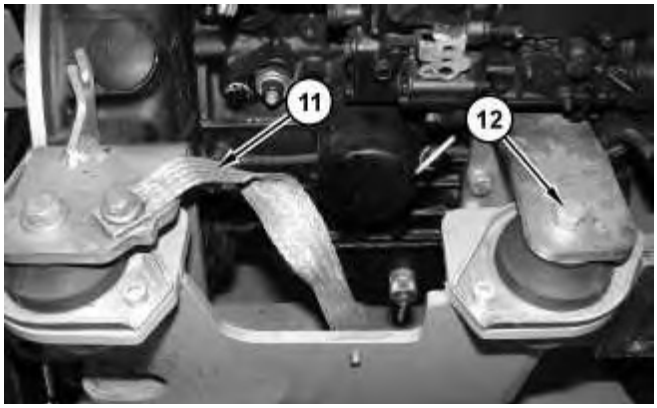

Illustration 8 g03334011

8. Disconnect ground strap (11). Remove mounting bolts (12) .

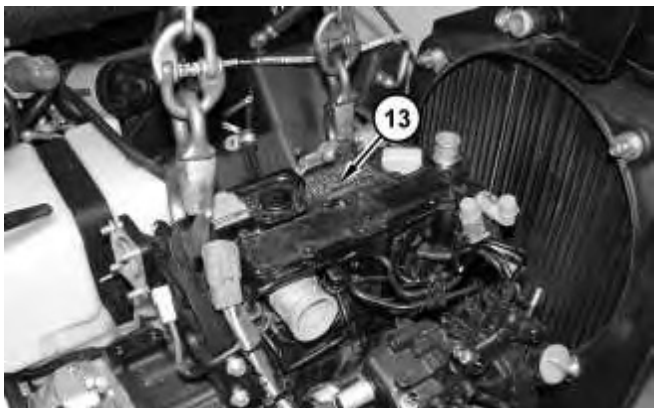

Illustration 9 g03334178

9. Use a suitable lifting device to remove engine (13). The weight of engine (13) is approximately 122 kg (270 lb).

Installation

1. Install engine (13) in the reverse order of removal.

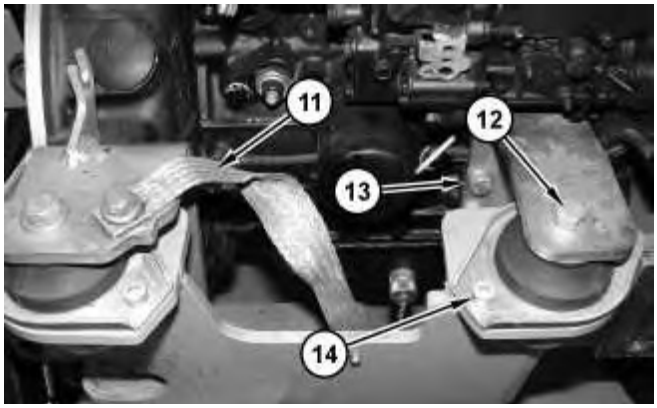

Illustration 10 g03340056

2. Tighten bolts (12) to a torque of 65 N·m (48 lb ft). Tighten bolts (13) to a torque of 45 N·m (33lb ft). Tighten bolts (14) to a torque of 25 N·m (18 lb ft)

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Media Number -UENR3253-01 **Publication Date -01/05/2015** **Date Updated -12/05/2015**

i05221442

Fan - Remove and Install

SMCS - 1356-011; 1356-012

Removal Procedure

Start By:

A. Remove cab.
B. Raise Trim.
C. Remove counterweight.

1. Drain Coolant. Refer to Operations and Maintenance Manual, "Cooling System Coolant (ELC) - Change" for the correct draining and filling procedures.

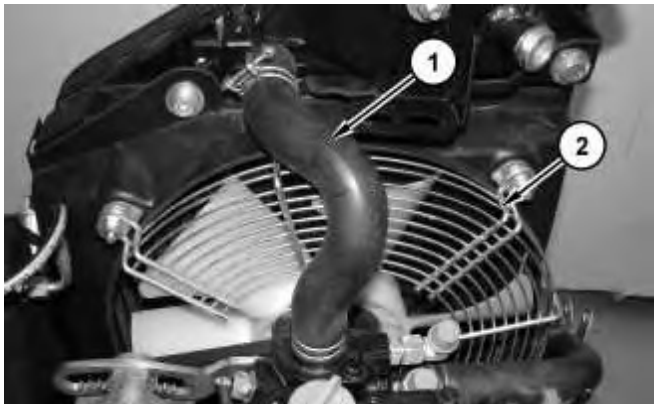

Illustration 1 g03334231

2. Remove hose (1) and fan guard (2) .

Illustration 2 g03334247

3. Remove hose (3) .

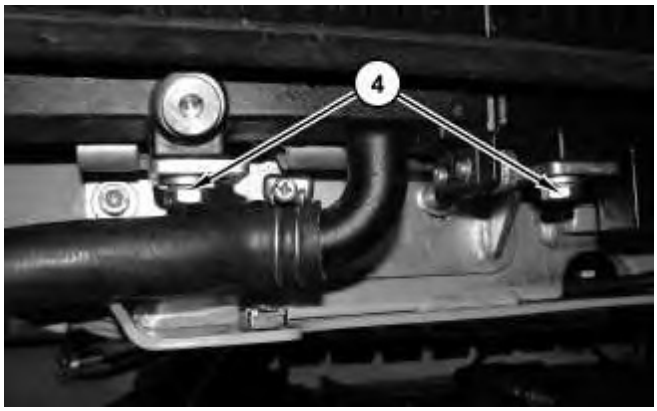

Illustration 3 g03334251

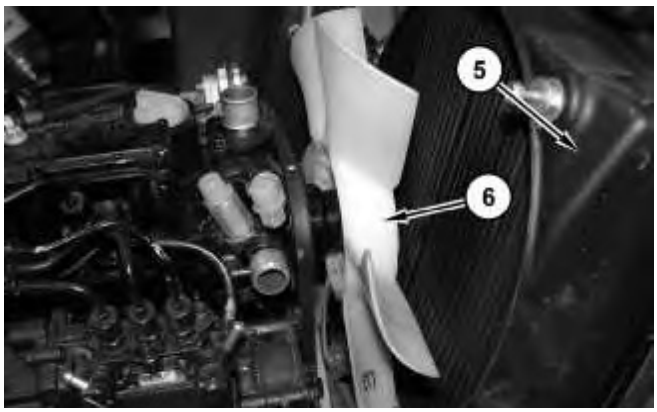

Illustration 4 g03334257

4. Loosen lower radiator mounting bolts (4). Lean radiator (5) outward in order to access the fan bolts. Remove fan (6) .

Installation Procedure

1. Install fan (6) in the reverse order of removal.

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i05212950

Flywheel - Remove and Install

SMCS - 1156-010

Removal Procedure

Start By:

A. Remove the pump drive coupling.

Illustration 1 g03335836

1. Remove bolts (1). Remove flywheel (2).

Installation Procedure

1. Install flywheel (2) in the reverse order of removal.

2. Tighten bolts (1) to a torque of 84 N·m (62 lb ft)

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i05190626

Fuel Filter and Water Separator - Remove and Install

SMCS - 1261-010; 1263-010

Specifications

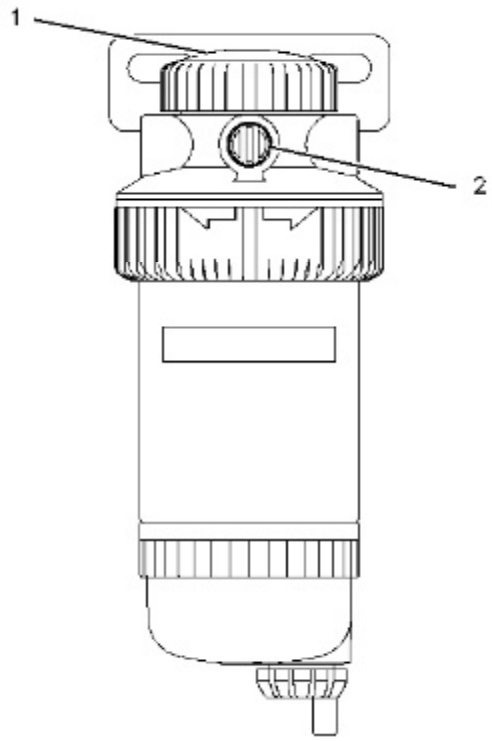

Illustration 1 g03340088

Table 1

Specifications for 144-9962 Water Separator and Fuel Filter Gp			
Item	**Qty**	**Part**	**Specification Description**
1	1	**118-8119** Nut	Torque to 8.75 ± 0.25 N·m (77.44 ± 2.21 lb in).
2	-	-	Torque plug to 1.5 ± 0.1 N·m (13.3 ± 0.9 lb in).

Removal Procedure

Illustration 2 g03326360

1. Disconnect hose assemblies (1). Remove bolts (2) and remove fuel filter and water separator (3) .

Installation Procedure

1. Install fuel filter and water separator (3) in the reverse order of removal.

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i05182847

Fuel Transfer Pump - Remove and Install

SMCS - 1256-010

Removal Procedure

Illustration 1 g03323194

For location purposes only.

1. Fuel transfer pump (1) is located behind fuel water separator.

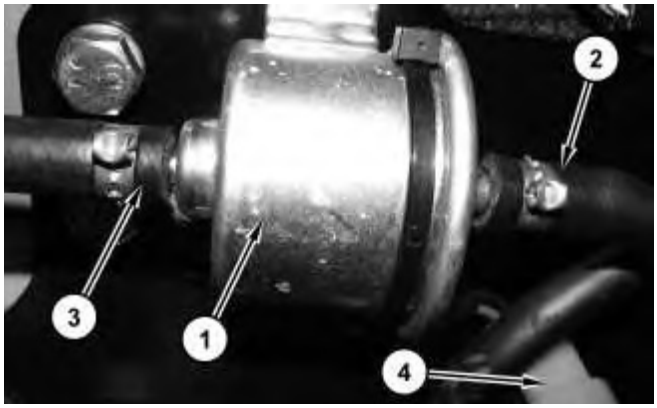

Illustration 2 g03323197

2. Disconnect hose assemblies (2) and (3). Disconnect harness assembly (4). Remove fuel transfer pump (1) .

Installation Procedure

1. Install fuel transfer pump (1) in the reverse order of removal.

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i05188755

Muffler - Remove and Install

SMCS - 1062-010

Removal Procedure

Start By:

A. Remove cab.
B. Raise trim.

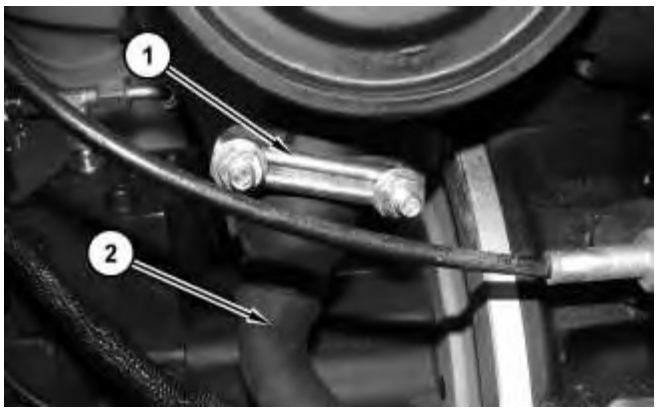

Illustration 1 g03325534

1. Disconnect clamp (1) and remove pipe (2) .

Illustration 2 g03325535

2. Remove nuts (4) .

Illustration 3 g03325537

3. Remove bolts (5) and muffler (6) .

Installation Procedure

1. Install muffler (6) in the reverse order of removal.

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i05187130

Radiator and Hydraulic Oil Cooler - Remove and Install

SMCS - 1351-010; 1353-010; 1374-010

Removal Procedure

Start By:

A. Remove cab.
B. Remove counterweight.

Illustration 1 g03325010

1. Remove panel (1) .

Illustration 2 g03325050

2. Remove lower panel (2) .

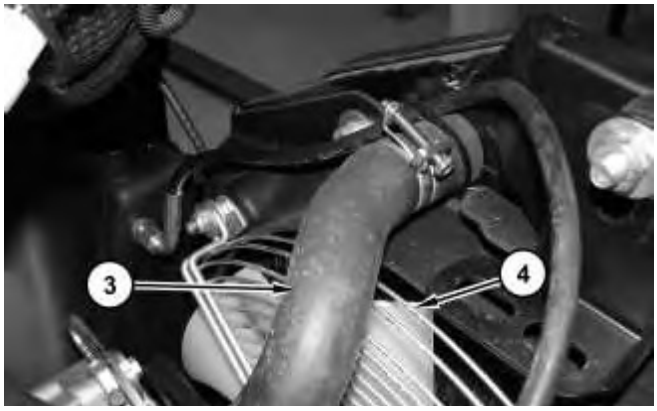

Illustration 3 g03325058

3. Remove upper radiator hose (3) and fan shroud (4) .

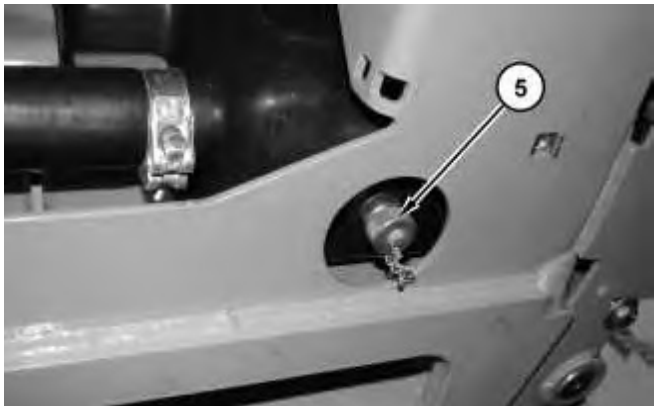

Illustration 4 g03325062

4. Drain hydraulic oil from hose assembly (5). Refer to Operation and Maintenance Manual, "Hydraulic Oil - Change" for the correct draining and filling procedures.

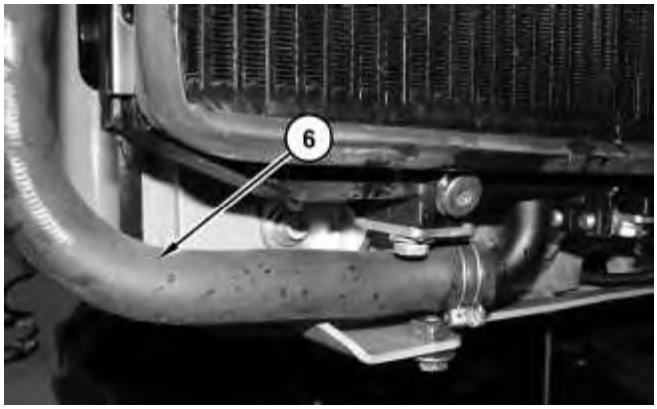

Illustration 5 g03325085

5. Remove lower radiator hose assembly (6) .

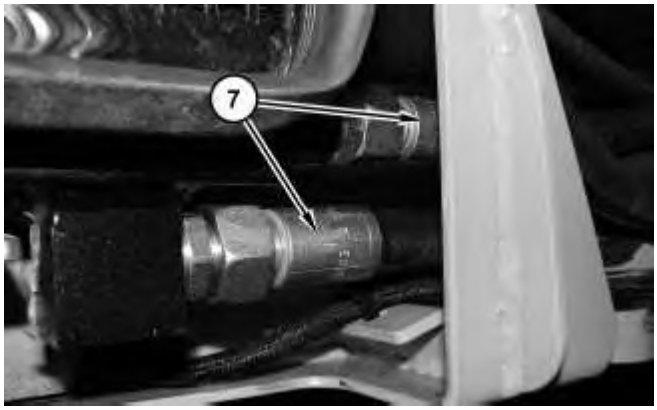

Illustration 6 g03325087

6. Disconnect hose assemblies (7) .

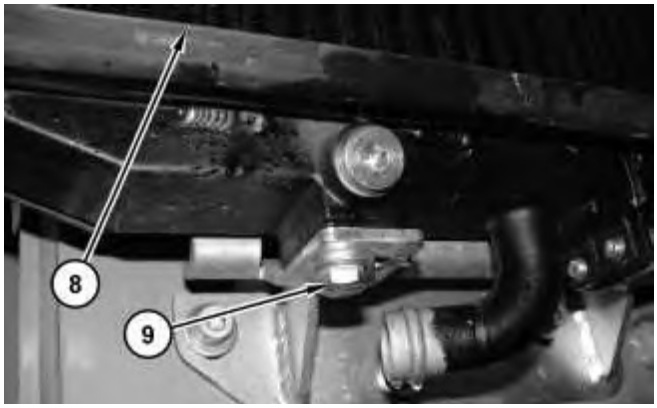

Illustration 7 g03325088

7. Remove bolts (9) and radiator and hydraulic oil cooler assembly (8) .

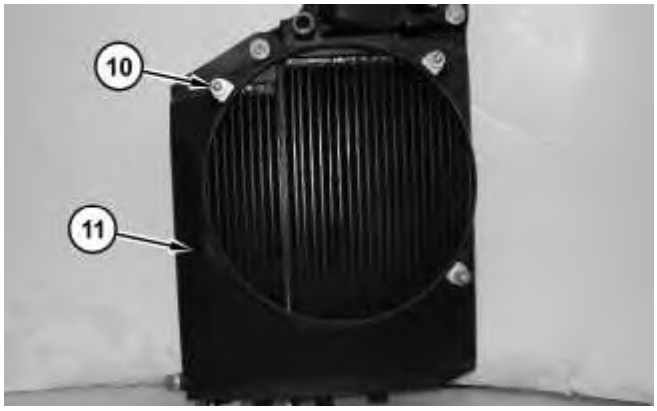

Illustration 8 g03325125

8. Remove bolts (10) and cover (11) .

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